

Modification of the RIII Model to Describe Interactions of Carbon Dioxide with Aqueous NaCl Solutions at Temperatures from 350 to 400 °C and Pressures from 18 to 40 MPa

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A model that has been used to describe the thermodynamic properties of aqueous NaCl solutions in the near critical region of water has been modified to incorporate the effect of CO₂(aq). Terms have been included to account for the solubility of CO₂ and the interaction of the CO₂ bearing species: CO₂⁰(aq), HCO³⁻, NaCO³⁻, NaHCO³, and CO₃²⁻ with H₂O and with each other. The measured solubility of CO₂ in aqueous NaCl solutions is compared with that calculated using the model.